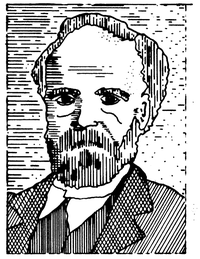
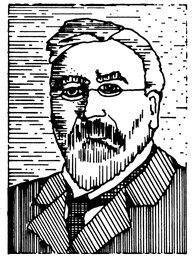
TRIM LINE

# DEVELOPMENT OF HELIUM ACTIVITIES

## U.S. Bureau of Mines



**Janssen**
*(1824-1907)*



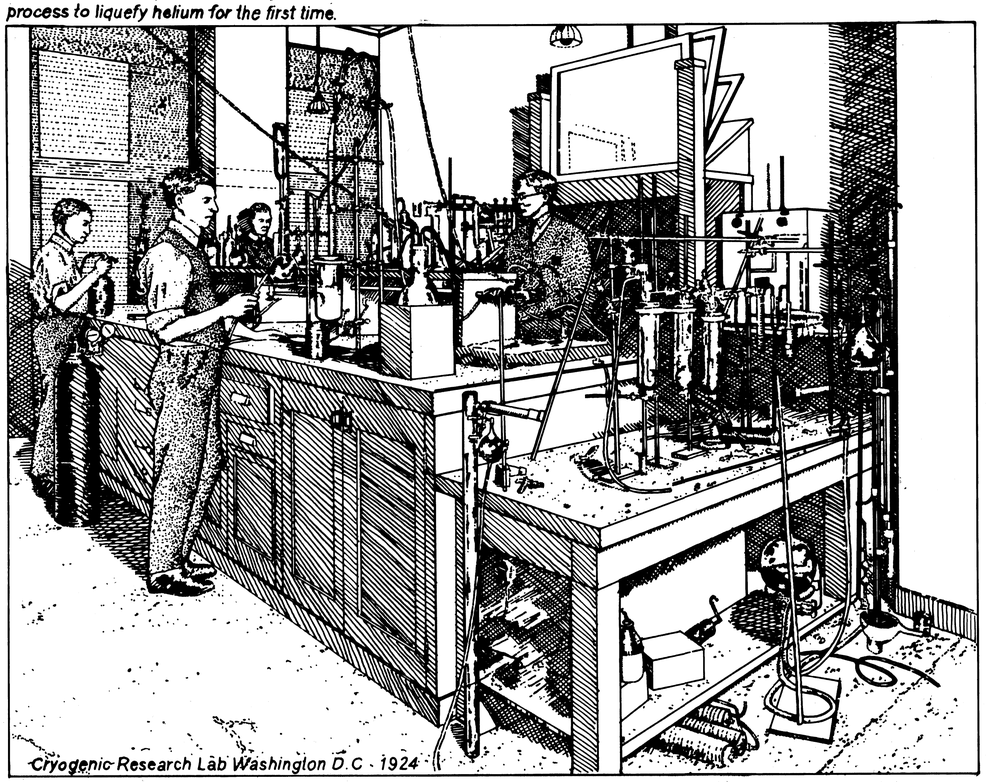
**Lockyer**
*(1836-1920)*

**Ramsay**
*(1852-1916)*

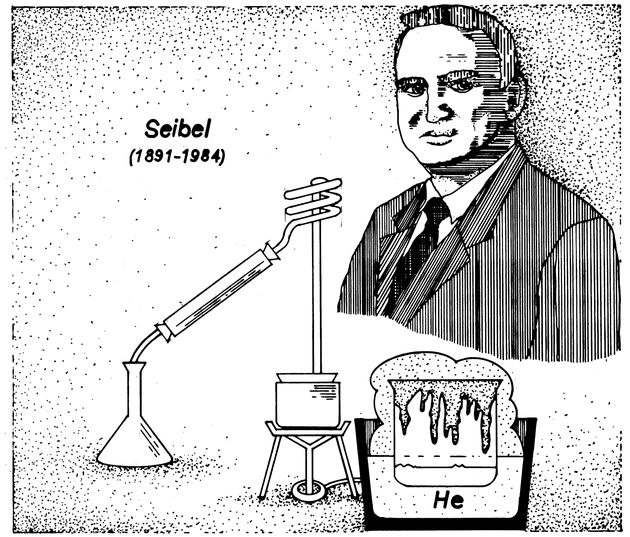
**Cady**
*(1874-1943)*

**Onnes**
*(1853-1926)*

*Astronomer Norman Lockyer discovered helium in August, 1868. Using a spectroscope, he observed numerous lines, one bright yellow and unknown at the time, in the sun's spectrum. Working independently in his Paris laboratory, French scientist Pierre Janssen made a similar discovery the same year. Lockyer named the yellow gas helium, for the Greek word helios, meaning the sun. It was 1895 before William Ramsay, a University of London scientist, discovered helium in the Earth's atmosphere. A decade later, in December 1905, H.P. Cady, a chemistry professor at the University of Kansas, detected helium in a sample of natural gas near Dexter, Kansas. The concentration was 1.84 percent helium, a small but significant amount. In 1908, internationally acclaimed Dutch scientist Kamerlingh Onnes used a cryogenic process to liquefy helium for the first time.*



*Cryogenic Research Lab Washington D.C. - 1924*

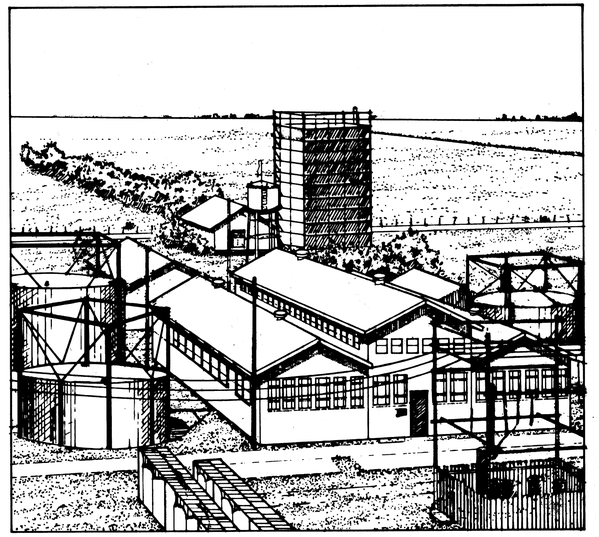



*In 1918, the U.S. Navy established the nation's first cryogenic laboratory in Washington D.C., which once transferred to Amarillo a decade later came under the leadership of Clifford W. Seibel.*

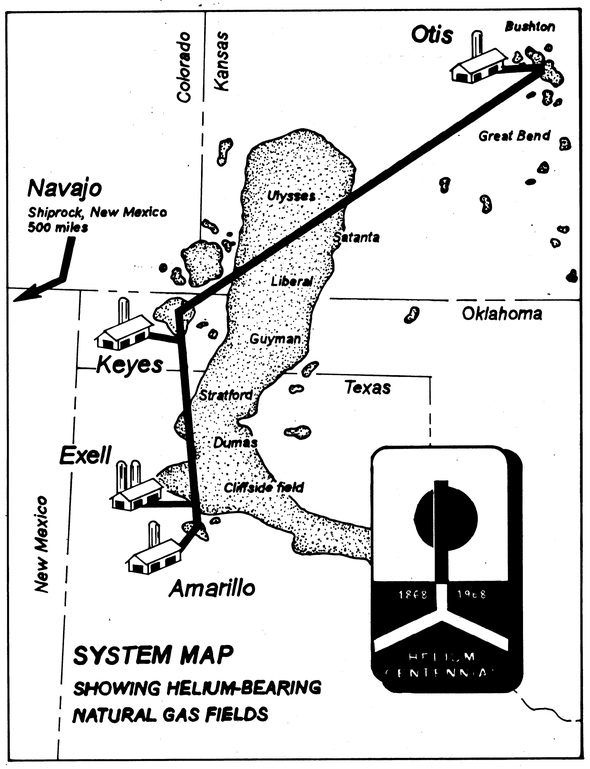
*The U.S. government's interest in helium accelerated during World War I. By this time, chemists had also discovered the presence of helium in natural gas at Petrolia, Texas. The U.S. Navy supported the earliest production of the inert gas by funding the construction of the nation's first helium plant in Fort Worth, Texas. Under supervision of the U.S. Bureau of Mines, the joint program produced its first helium in November, 1918. World War I ended, however, before the first shipment left the docks in New Orleans. Still, the use of helium for naval dirigibles promised a ready postwar market for the unique gas.*

*As the Petrolia gas field neared exhaustion, the Navy and Bureau of Mines sought a new site for the helium operations. With the passage of the Helium Conservation act of 1925, Congress transferred authority for the helium program to the Bureau of Mines; the agency promptly moved its operations to Amarillo. In 1929, the Amarillo Helium Plant became the world's first permanent helium production and research facility. This facility, as well as others that followed, produced helium for the nation's defense program for the remainder of the twentieth century.*

*In 1968, the City of Amarillo and the U.S. Bureau of Mines Helium Activities commemorated the one hundredth anniversary of the discovery of helium with the dedication of a monument and time capsule. Just one year before the historic lunar landing, this event marked the zenith of the U.S. government's near monopoly as the world's leading producer of helium.*



*Petrolia Plant, Fort Worth, Texas*




**SYSTEM MAP**
**SHOWING HELIUM-BEARING NATURAL GAS FIELDS**

HISTORIC AMERICAN ENGINEERING RECORD
TX-105

SHEET 2 OF 3

TEXAS

POTTER COUNTY

AMARILLO

HELIUM ACTIVITIES RECORDING PROJECT

U.S. BUREAU OF MINES, HELIUM PLANTS

DELINEATED BY: *Suzanne Rowe Covington & Tom Cheney 2001*

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
HISTORIC AMERICAN ENGINEERING RECORD



TRIM LINE